

Title (en)

Fuel control system for a staged combustor

Title (de)

Brennstoffsteuerungssystem für Stufenbrenner

Title (fr)

Système de régulation du carburant d'un brûleur à étages

Publication

**EP 0905448 A3 20000809 (EN)**

Application

**EP 98204219 A 19941208**

Priority

- EP 95905870 A 19941208
- US 17178693 A 19931222

Abstract (en)

[origin: US5916126A] A fuel control system for a gas turbine engine having a staged combustor includes apparatus and methods to operate the combustor during pilot operation, staged operation, and transition between the two modes of operation. Various construction details are developed which provide a fuel control having a switch with built in hysteresis for determining the transition points between operating modes. In one embodiment, the combustor is switched from pilot to staged operation at a thrust level greater than the thrust level at which the combustor is switched from staged to pilot operation. During transitions between operating modes, the changes in fuel flows are limited by a plurality of rate limits to prevent combustor fuel spikes and blow-outs from occurring. During engine starts, the fuel lines to the main combustor are pre-filled to provide responsiveness during the transition from pilot to staged operation.

IPC 1-7

**F23R 3/34**; **F02C 7/26**; **F02C 9/28**

IPC 8 full level

**F02C 7/26** (2006.01); **F02C 9/00** (2006.01); **F02C 9/26** (2006.01); **F02C 9/28** (2006.01); **F02C 9/34** (2006.01); **F23R 3/34** (2006.01)

CPC (source: EP US)

**F02C 7/26** (2013.01 - EP US); **F02C 9/28** (2013.01 - EP US); **F02C 9/34** (2013.01 - EP US); **F23R 3/34** (2013.01 - EP US); **F23R 3/346** (2013.01 - EP US); **F05D 2270/082** (2013.01 - EP US); **F05D 2270/31** (2013.01 - EP US); **Y02T 50/60** (2013.01 - EP US)

Citation (search report)

- [A] US 5107674 A 19920428 - WIBBELSMAN ROBERT C [US], et al
- [A] US 4719750 A 19880119 - LEMMIN JUERGEN [DE]
- [A] US 4245462 A 19810120 - MCCOMBS JR HOWARD L

Cited by

DE10032471A1; US7003939B1

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**US 5916126 A 19990629**; DE 69426946 D1 20010426; DE 69426946 T2 20010809; EP 0832396 A1 19980401; EP 0832396 B1 20010321; EP 0905448 A2 19990331; EP 0905448 A3 20000809; EP 0905449 A2 19990331; EP 0905449 A3 20000322; JP 2005201284 A 20050728; JP 2005220920 A 20050818; JP 3749539 B2 20060301; JP 3830508 B2 20061004; JP 3874780 B2 20070131; JP H09507098 A 19970715; US 5465570 A 19951114; US 5598698 A 19970204; WO 9517632 A1 19950629

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**US 42634595 A 19950421**; DE 69426946 T 19941208; EP 95905870 A 19941208; EP 98204219 A 19941208; EP 98204220 A 19941208; JP 2005109380 A 20050406; JP 2005109381 A 20050406; JP 51745695 A 19941208; US 17178693 A 19931222; US 42631695 A 19950421; US 9414105 W 19941208